Complete Summary

TITLE

Lead screening in children: percentage of children two years of age who had one or more capillary or venous lead blood tests for lead poisoning by their second birthday.

SOURCE(S)

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 1, Narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 90 p.

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 417 p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the Measure Validity page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percentage of children two years of age who had one or more capillary or venous lead blood tests for lead poisoning by their second birthday.

Note from the National Quality Measures Clearinghouse (NQMC): For this measure, there are both Administrative and Hybrid Specifications. This NQMC measure summary is based on the Administrative Specification. Refer to the original measure documentation for details pertaining to the Hybrid Specification.

RATIONALE

The National Health and Nutrition Examination Survey (NHANES), an ongoing series of cross-sectional surveys on the health and nutrition of the U.S. population, reports on the blood lead levels (BLL) of children and adults. Children 1 to 5 years of age have the highest prevalence of elevated blood levels of any age group in the U.S., although the prevalence has declined over the past several decades. Even with these decreases, an estimated 310,000 children in this country remain at risk for exposure for harmful levels of lead. BLLs of African American children and among low-income families remain significantly higher than those of other races and those of other income status.

Lead poisoning in childhood primarily affects the central nervous system, the kidneys and the blood-forming organs. Adverse effects in young children have been noted at levels as low as 10 micrograms/dL and include impairment in cognitive function and initiation of various behavioral disorders. Recent studies have noted effects of lead on cognitive ability at levels even below the level of concern of 10 micrograms/dL.

Elevated BLLs are not just important from a health standpoint; they also have significant financial impact. One study estimated the economic benefit of decreased lead exposure in a 3.8 million person cohort of children aged 2 years in 2000. Based on the reduction in lead exposure since the 1970s, the estimated increase in earnings for the cohort of children would be between $110 billion and $319 billion over their lifetimes. Another study estimated that the avoidable medical costs per child with an elevated BLL to be $1,300. In addition, an elevated BLL was associated with avoidable special education costs of $3,331 per child and a 1 microgram/dL increase in BLL resulted in a decreased lifetime earnings of $1,147.

Two commonly accepted methods of screening children for lead poisoning are currently in use; the venous method, or inserting the needle through the skin and into the vein, is the most accurate way to measure lead in blood, but capillary screening, or finger or heel stick, is often the easiest way to screen young children since it does not require a venous blood draw.

PRIMARY CLINICAL COMPONENT

Lead screening in children

DENOMINATOR DESCRIPTION

Enrolled children who turn two years of age during the measurement year (see the "Description of Case Finding" field in the Complete Summary)

NUMERATOR DESCRIPTION

At least one capillary or venous blood test on or before the child's second birthday (refer to Table LSC-A in the original measure documentation for codes to identify lead tests)

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Use of this measure to improve performance

EVIDENCE SUPPORTING NEED FOR THE MEASURE

National Committee for Quality Assurance (NCQA). The state of health care quality 2009. Washington (DC): National Committee for Quality Assurance (NCQA); 2009. 127 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Accreditation
Decision-making by businesses about health-plan purchasing
Decision-making by consumers about health plan/provider choice
External oversight/Medicaid
External oversight/State government program
Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Managed Care Plans

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Children who turned two years or age during the measurement year

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

See the "Rationale" field.

ASSOCIATION WITH VULNERABLE POPULATIONS

Children are more sensitive to lead than adults; symptoms of lead poisoning in children are more difficult to reverse.

See also the "Rationale" field.

EVIDENCE FOR ASSOCIATION WITH VULNERABLE POPULATIONS

Bellinger DC. Lead. Pediatrics2004 Apr;113(4 Suppl):1016-22. [94 references] PubMed

BURDEN OF ILLNESS

The introduction of chelation therapy, or the removal of heavy metals from the body, has decreased the mortality rate of lead-poisoned children who presented signs or symptoms of brain disease. Between 28 to 45 percent of lead poisoned children died up until that time.

See also the "Rationale" field.

EVIDENCE FOR BURDEN OF ILLNESS

Lanphear BP, Dietrich KN, Berger O. Prevention of lead toxicity in US children. Ambul Pediatr2003 Jan-Feb;3(1):27-36. PubMed

UTILIZATION

Unspecified

COSTS

Total annual costs of lead poisoningÂ are estimated to be $43.4 billon.

See also the "Rationale" field.

EVIDENCE FOR COSTS

Landrigan PJ, Schechter CB, Lipton JM, Fahs MC, Schwartz J. Environmental pollutants and disease in American children: estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer, and developmental disabilities. Environ Health Perspect2002 Jul;110(7):721-8. PubMed

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Both users and nonusers of care

DESCRIPTION OF CASE FINDING

Enrolled children who turn two years of age during the measurement year and who were continuously enrolled for 12 months prior to the child's second birthday. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a one-month gap in coverage (i.e., a member whose coverage lapses for 2 months [60 days] is not considered continuously enrolled).

DENOMINATOR SAMPLING FRAME

Enrollees or beneficiaries

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions
Enrolled children who turn two years of age during the measurement year

Exclusions
Unspecified

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Patient Characteristic

DENOMINATOR TIME WINDOW

Time window precedes index event

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions
At least one capillary or venous blood test on or before the child's second birthday (refer to Table LSC-A in the original measure documentation for codes to identify lead tests)

Exclusions
Unspecified

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Lead screening in children (LSC).

MEASURE COLLECTION

HEDIS® 2010: Health Plan Employer Data and Information Set

MEASURE SET NAME

Effectiveness of Care

MEASURE SUBSET NAME

Prevention and Screening

DEVELOPER

National Committee for Quality Assurance

FUNDING SOURCE(S)

Unspecified

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

In order to fulfill National Committee for Quality Assurance's (NCQA's) mission and vision of improving health care quality through measurement, transparency and accountability, all participants in NCQA's expert panels are required to disclose potential conflicts of interest prior to their participation. The goal of this Conflict Policy is to ensure that decisions which impact development of NCQA's products and services are made as objectively as possible, without improper bias or influence.

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2007 Jul

REVISION DATE

2009 Jul

MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: National Committee for Quality Assurance (NCQA). HEDIS® 2009. Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications. Washington (DC): National Committee for Quality Assurance (NCQA); 2008 Jul. various p.

SOURCE(S)

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 1, Narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 90 p.

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 417 p.

MEASURE AVAILABILITY

The individual measure, "Lead Screening in Children (LSC)," is published in "HEDIS® 2010. Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications."

For more information, contact the National Committee for Quality Assurance (NCQA) at 2000 L Street, NW, Suite 500, Washington, DC 20036; Telephone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

COMPANION DOCUMENTS

The following is available:

- National Committee for Quality Assurance (NCQA). The state of health care quality 2009. Washington (DC): National Committee for Quality Assurance (NCQA); 2009. 127 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Telephone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

NQMC STATUS

This NQMC summary was completed by ECRI Institute on November 15, 2007. The information was not verified by the measure developer. This NQMC summary was updated by ECRI Institute on March 6, 2009. The information was verified by the measure developer on May 29, 2009. This NQMC summary was updated again by ECRI Institute on January 15, 2010.

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